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SOVIET STOCK CARS SET NEW RECORDS; IMPROVE RACING CAR

RACERS USE POBEDAS, MOSKVICHES -- Moscow, Tekhnika-Molodezhi, No 1, Jan 51

The first All-Union Automobile Race was held in August 1950 by the All-Union Committee for Physical Culture and Sports. M. Metelev attained a speed of 159.921 kilometers an hour in a racing model Pobeda with a specially elongated, streamlined body. L. Givartovskiy drove 300 kilometers at a speed of 114.224 kilometers an hour, and 100 kilometers at a speed of 116.754 kilometers an hour in a Moskvich car of the up-to-1,200-cubic-centimeters class.

In November 1950, V. Nikitin of Kharkov drove one kilometer from a standing start in 36.33 seconds, making a speed of 98.549 kilometers an hour. He thus broke the former record of 95.037 kilometers an hour for cars in the up-to-2,500-cubic-centimeters class. Nikitin completed one kilometer from a moving start in 22.17 seconds in spite of unfavorable weather conditions, attaining a speed of 162.381 kilometers an hour, and breaking the old record of 158.38 kilometers an hour.

Nikitin set three new national records in Melitopol' region in mid-December 1950. He drove one kilometer from a standing start in 36 seconds, making a speed of 100 kilometers an hour. He completed a kilometer from a moving start in 20.98 seconds, an average speed of 171.591 kilometers an hour, and a run of 5 kilometers from a moving start in one minute and 49.18 seconds, an average speed of 164.910 kilometers an hour, breaking the former record of 133.204 kilometers an hour.

Nikitin used the motor, transmission, front and rear suspensions, brake assembly, and the fuel, cooling, and ignition systems of a standard Pobeda for his car. By boring the cylinders to a diameter of 88.84 millimeters, their working volume was increased from 2.12 to 2.48 liters. The compression ratio was increased from 6.2:1 to 9.5:1. The horsepower of the motor was increased from 50 to 70, at 3,800 revolutions per minute. For better fueling of the cylinders with the air-fuel mixture, two carburetors were mounted on the motor, each of them feeding a pair of cylinders by an arrangement of special supply lines with conical openings. These conical openings extended out to the surface of the body in order to utilize the pressure of the oncoming current of air.

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The frame of an M-1 auto was used for the undercarriage and body of Nikitin's car, which is a two-seater. The all-metal, sheet Duraloy body is of original, streamlined design. The car is 6.5 meters long, 1.8 meters wide, and 1.3 meters high at the cockpits. It weighs 250 kilograms less than a standard Pobeda. The clearance and wheelbase were left unchanged. Oversized tires with a pressure of 3.2 kilograms per square centimeter, and airplane spark plugs were used.

HOLD ALL-UNION STOCK CAR RACES AT MINSK - Moscow, Avtomobil'naya i Traktornaya Promyshlennost', No 1, Jan 51

The 1950 all-Union competition for individual and team automobile-racing championships was held in Minsk, with a view toward raising the speed of standard Soviet cars without introducing radical changes in design. The cars may be divided into seven groups on the basis of speed and technical characteristics.

Group I consists of GAZ-M20 (Pobeda) cars with identical motors and transmissions. Car No 11, with a more streamlined body, but with all other conditions equal, raised its speed 15-16 kilometers an hour above that of the other cars in the same group. The higher speed range of the cars in Group I, as compared to Group II (consisting of cars from the same plant), is explained by greater horsepower, and by the correct choice of gear ratio in the transmission to produce the maximum permissible rate of revolution of the crankshaft. Groups II and III may be compared in the same way.

The significance of the gear ratio of the transmission (all other things being equal), is especially apparent in Groups III and IV. The chief factor affecting speed in the Moskvich (Groups V, VI, and VII), was horsepower.

Various methods were used to improve the streamlining of the bodies, such as lowering the roof and installing plastic or Duralumin front and rear sections to cut down wind resistance.

[See table on following page]

Brief Technical Characteristics of Racing Cars

Group	No of Car	Working Vol of Motor (liters)	Ratio of Compression	Hp	Max Rpm	Gear Ratio of Transmission	Gross Wt (kg)	Changes of Standard Body	Speed Range* (km/hr
GAZ-M20									
I	11 20 27	2.49**	7.0	75	4,100	3.09	1,200 1,300 1,400	Special, streamlined Lowered 160 mm Minus back doors; wheels shielded	138-161
II	14 23 25	2.12**	7.0	68	4,000	3.78	1,400	Standard	133-139
III	19 22 29	2.12	7.2 6.9 6.2	-- -- --	3,600	4.44	1,500	Lowered 50 mm Standard	125-133
IV	13 31	2.12	6.2 7.1	50 52	3,600	5.12 4.7	--	Standard	115-122
MOSKVICH									
V	37 38 40 46	1.19	6.82	36	4,200	5.14 0.81 5.14	--	Standard	107-118
VI	41 44 45	1.07	6.1 6.2 6.2	28	3,800	5.14	--	Standard	91 105
VII	35 36 42	1.07	6.2 -- 1.8	23	3,600	5.14	--	Standard	82-92

* The speed range figures were taken from a graph in the original and are therefore approximate figures.

** These figures and remaining data have been reproduced just as they appeared in the original. It was not possible to determine, for example, whether "2.49" applied to the entire "I" group or just to "No 20."

The racing car motors were equipped with special carburetors, or with two regular carburetors, with an attachment producing a high compression ration (up to 8.2:1), improved intake manifolds and outlet pipes, and devices to feed the oncoming current of air to the carburetors (pipes from the radiator jacket, from the forward part of the hood, or from openings in the fenders under the headlights). Mufflers were removed. By boring the cylinders to a diameter of 89 millimeters and using ZIS-110 pistons (reduced in diameter), the working volume of the cylinders on the GAZ-M20 was increased to 2.49 liters. The horsepower of the Moskvich (Group V) was raised by boring the cylinders to a diameter of 71 millimeters, and thus increased their working volume to 1.19 liters. The capacity of the lubrication systems on the majority of the machines was increased to 8.5-9 liters, and GAZ-51 oil coolers were installed on many of them. The capacity of the cooling system was also increased. Special spark plugs, strengthened breaker springs, and dual ignition systems were used. The fastest cars (Group I) had a gear ratio of 3.09 in the transmission.

Tires were inflated to comparatively high pressures: 2.5 atmospheres for standard tires and 4 atmospheres for special tires. On some of the cars, standard M-20 (6.00-16) tires were replaced by 7.00-16 tires. The Moskvich cars had 5.00-16 and 5.50-16 tires inflated to 3 atmospheres. A marked increase in pressure in the tires (4 atmospheres), brought about by a need for greater traction at high speeds, measurably decreased the stability of the cars on the insufficiently smooth asphalt track.

M. Metelev set new all-Union records in a Pobeda (No 11) for distances of 50, 100, and 300 kilometers, attaining speeds of 159.929, 161.211, and 145.858 kilometers an hour respectively. L. Givartovskiy, driving a Moskvich (No 37), for the 100- and 300-kilometer distances, set records of 115.392 and 114.324 kilometers an hour. B. Kachigin, driving a Moskvich (No 40), set a new record for the 50-kilometer distance, 114.774 kilometers an hour.

MODERNIZE ZVEZDA-3M RACING CARS -- Moscow, Avtomobil', No 12, Dec 50

At the end of 1949 and the beginning of 1950, the racing car bureau, under the Central Design Bureau of Glavmotovelaprom, Ministry of Automobile and Tractor Industry USSR, modernized the record-breaking racing car Zvezda-3M. The designers concentrated on raising the power of the motor and increasing its dependability, decreasing the weight of the car, improving the cooling of the motor by a basic change in the whole cooling system, and improving the aerodynamic parameter of the body. Several changes were made in the motor's ignition and fuel systems. The former steering gear, of the type used in the Moskvich, was replaced by steering gear of the M-20 Pobeda type. The volume of the motor was increased to 350 cubic centimeters.

On 15 October, the modernized Zvezda-3M went one kilometer from a moving start in 17.56 seconds, a speed of 205.011 kilometers an hour. These technical trials, held at the 42-43-kilometer Minsk track, are continuing.

OPEN NEW AUTO STORE IN LENINGRAD -- Moscow, Avtomobil', No 12, Dec 50

A new store selling Pobedas and Moskviches has been opened in Apraksin dvor, Leningrad. This is Glavavtotraktorosbyt's largest store, with a total floor space of 1,200 square meters. There is room for 40 cars under the store's glass roof.

MOSKVICHES FOR SALE IN TBILISI, KUTAISI -- Tbilisi Zarya Vostoka, 1 Feb 51

The Tbilisi store of Glavavtotraktorosbyt is advertising limousine and convertible type Moskviches for sale to the public. These same automobiles are for sale in Avtotraktorosbyt's branch store in Kutaisi.

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Motorcycles and bicycles are for sale in Avtotraktorosbyt's branch stores in Kutaisi, Batumi, Sukhumi, Gori, and Tsnori. Motorcycles are being sold to the public for cash and to kolkhozes, and social and industrial organizations on credit (by fund transferral). The Tbilisi store has a large assortment of spare parts for the Pobeda and the Moskvich, and also motorcycle and bicycle parts. Automobiles, motorcycles, and bicycles are sold with a guarantee.

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